Guillaume Heu

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Professional experiences

Smart-chain
Paris

DOUBLE ROLES : TECH LEAD FOR BLOCKCHAIN-BASED IP PROTECTION SERVICE | DEVOPS AND INTERNAL TRAINER
June 2021 - April 2022

- Tech lead : Audit and complete refactor of an in-house blockchain signature/IP protection service :
  several clients in production at my arrival, a few more corporate accounts using the new version (https://www.musicstart.com/)
- API development and integration in the new infrastructure (**Python, Helm, networking**) :
  Clients using the new version : Edith-et-Nous, SACEM with Musicstart
- DevOps : Self-training on several DevOps technologies :
  Docker, Kubernetes, Helm, ArgoCD, S3 bucket, Hashicorp Vault... Cloud hosting with Scaleway and OVH
- Deployment, maintenance, updates and migrations of applications in multiple clusters for testing, staging and production stages.
- Docker training Internal Docker training of Full Stack and front-end developpers : **Best practices, build time and image size optimizations, security concerns...**

Learneo
Rue de Clignancourt, Paris

IT NETWORKING INSTRUCTOR
April 2019 - June 2020

- Cisco instructor (CCNA, CCNP R&S), a couple of one-week training sessions per month, with 2-4 corporate clients at a time.
- Huawei (HCIA R&S, HCIP R&S) 2 training sessions spanning a week each, with 2-3 clients.
- MIIT project instructor : networking classes for people in professional conversion. Spanning 3 months, with 15-20 trainees.
  My favorite job thus far.
- Infrastructure instructor for RTE-Orange (ICX) : one-week training for Orange employees.

Mission Locale Orly-Choisy
Orly, France

COMPUTER SCIENCE INTERN
May 2018 - July 2018

- Development of an SMS appointment reminder app (**Java JEE - Tomcat, Google API, Vianett API**)
- Internal audit of GDPR compliance

Skills

Development

- Python : **Pytest, Pandas, MatPlotLib, Flask, FastAPI, Django, Brownie**
- Rust : some Rust projects on my GitHub, including contributions to the **ipfs and docker libraries**
- Blockchain development : **Solidity with Remix, Truffle/Brownie**
- Other programming languages : **Java JEE, notions of Kotlin, C#, C/C++, HTML/CSS, Javascript (browser)**

IT Infrastructures, DevOps, SysAdmin and networking

- DevOps : **Kubernetes, ArgoCD, Helm, Gitlab-CI/GoCD, notions of Ansible and Hashicorp Terraform/Nomad/Consul/Vault/Packer.**
- Cloud technologies : **S3 buckets, IPFS, Scaleway & OVH cloud providers, Cloud-init**
- Virtualization & containers : **Docker, Docker-compose, Proxmox, Qemu/KVM, LXC, XCP-NG ; VFIO passthrough**
- Networking protocols & IT infrastructure, enterprise networking design patterns and wireless solutions
- Other : Cryptography basics, ZFS and tiered storage, computer hardware (desktops and servers, Turing PI 2)

Languages

- English & French - bilingual

Projects

Home lab - mini data center

- **Ubuntu Server configured with cloud-init, Kubernetes, Prometheus, Grafana, PfSense, Docker, DynDNS**
- Kubernetes services : **ArgoCD, Sealed-secrets, MetalLB, OpenEBS (ZFS storage), cert-manager, loki, prometheus & promtail, nginx ingress controller**
- Previously used : **Proxmox, NGINX reverse proxy, Windows server, PRTG, linux containers (LXC)**

Custom DevOps tools (github links)

- github.com/guillheu/docker-dev-env-generator : Simple **Rust** utility that will bootstrap a container-based development environment
- github.com/guillheu/kubernetes-sealed-secrets-key-archiver : Sealed-secrets keys archiver (out-of-date)
- github.com/guillheu/argocd-kustomize-helm-cmp : ArgoCD plugin to combine Kustomize and Helm deployments
- github.com/guillheu/nomad-testing : Playing around and learning **Hashicorp Nomad, Consul and Ansible.**

Design of applications deployment strategies

- Design of storage and compute solutions of multiple applications for several platforms.
- Blockchain nodes : **Polygon Avail, ZKEVM, Q-blockchain, Polygon PoS, NeM, Nano...**
- Other apps : **Terraria/tModLoader game server, Minecraft server, Improved-initiative**
- Platforms used : **Docker/Docker-compose, Kubernetes, Helm**

DeSign - Decentralized Signature

- Decentralized application capable of "simple" signatures (according to EIDAS regulation) on EVM compatible blockchains.
- Client application, written in **Java**
- https://github.com/guillheu/DeSign

Windows VM with GPU & NVME & CPU passthrough on Linux host

- Windows virtual machine for personal use, with VFIO GPU passthrough for almost bare-metal gaming performance.
- Discovery of IOMMU groups; custom linux kernel patching (ACS), compiling and installation ; KVM-Qemu Virtual machine setup.
- Infamous "Error 43" workaround (No longer necessary).

Trainings and Education

Alyra online school *Paris, France*

BLOCKCHAIN DEVELOPPER *October 2020 - May 2021*

- Blockchain basic concepts (PoW/PoS/PoA, mining, limitations and use cases)
- Solidity programming for EVM Smart Contracts
- DApps development with Truffle/Brownie, Django front-end (python) & client-side Javascript (web3.js)
- Final project : DeSign, Decentralized electronic signature with Fawzi Banhalima (github.com/guillheu/DeSign)

Learneo *Paris, France*

MIIT TRAINING *January 2019 - April 2019*

- CCNA certification (février 2019)
- IINS certification (2020)
- ITIL concepts

IUT Paris Descartes *Paris, France*

COMPUTER SCIENCE DEGREE (DUT) *July 2018*

- Programming : Java JEE (jsp), C, C++, HTML/CSS, PHP, SQL
- Networking basics (IPv4, NAT/PAT, adresses MAC)
- Final project : Web service to implement AI-based FaQs for clients.

Certifications

Blockchain Developper certification (with Alyra)

CCSI - Certified Cisco Systems Instructor Expired February 2021

CCNA - Cisco Certified Network Associate Expires June 2023